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SUPPLEMENT

ENVIRONMENTAL ASSESSMENT

COMPETITIVE LEASE APPLICATION NM 28093

United States Department of the Interior

Bureau of Land Management

Albuquerque District

August 1979

BUREAU OF LAND MANAGEMENT

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ENVIRONMENTAL ASSISTANT
COMPETITIVE LEASE APPLICATION ON LAND

United States Department of the Interior
Bureau of Land Management
Albuquerque District

August 1979

BUREAU OF LAND MANAGEMENT

Denver Federal Center

PURPOSE

This supplement contains letters received in the public review process of the environmental assessment on the proposed leasing of coal for Competitive Lease Application NM 28093. Fourteen letters concerning this competitive lease were received from various governmental agencies, industry, and a private citizen. Responses to specific issues raised in these letters are included in this supplement.

The public comments that were received either require minor changes or do not warrant further agency response, thereby alleviating the necessity for reprinting the environmental assessment in its entirety. Copies of this assessment are available from the Bureau of Land Management, Albuquerque District Office, 3550 Pan American Freeway N.E., Albuquerque, New Mexico 87107.

4. Holders of rights-of-way on the proposed lease area are agreeable to leasing.
5. Issues addressed in public comments needing further assessment would be analyzed prior to exploration and mining plan approval.

Aug 30 1979

L. Paul Applegate
District Manager, Albuquerque
Bureau of Land Management

ENVIRONMENTAL IMPACT STATEMENT DECLARATION

A review of this environmental assessment indicates that there would be no significant impact on the human environment that would necessitate preparation of an environmental impact statement. Based on the findings listed below, a decision not to prepare an EIS on this lease application has been made.

1. The coal would be mined by underground mining techniques adjacent to an existing mining operation, resulting in relatively minor additional impacts.
2. The proposed action would afford very little change in employment, placing relatively small additional demands on the infrastructure.
3. The BLM has encountered no opposition to the possible leasing of this tract.
4. Holders of rights-of-way on the proposed lease area are agreeable to leasing.
5. Issues addressed in public comments needing further assessment would be analyzed prior to exploration and mining plan approval.

Aug. 31, 1979
Date

L. Paul Applegate
L. Paul Applegate
District Manager, Albuquerque
Bureau of Land Management



IN REPLY REFER TO:

United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE

SOUTH CENTRAL REGION

5000 MARBLE AVENUE, N.E., ROOM 211

ALBUQUERQUE, NEW MEXICO 87110

August 1, 1979

Mr. Paul Applegate
 District Manager
 Bureau of Land Management
 P. O. Box 6770
 Albuquerque, New Mexico 87107

Dear Mr. Applegate:

This is in response to your request for comments on the Environmental Assessment for Competitive Lease Application, NM 28093, concerning a proposed lease and mining of Federal coal reserves on 3,855 acres near Farmington, New Mexico. These comments are being provided on a coordination/technical assistance basis.

1-A

Because of the fact that there are many known archeological sites in the proposed lease area, at least ten of which may be eligible for the National Register of Historic Places, we recommend early consultation with the State Historic Preservation Officer. If possible, this consultation should occur prior to granting the lease, in order to determine whether the cultural resources present on the site are of sufficient value to justify delaying approval of the lease.

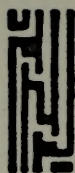
We appreciate the opportunity to comment on this proposed lease at this time.

Sincerely yours,

[Handwritten signature of Rolland E. Handley]
 Rolland E. Handley
 Regional Director

RESPONSE TO LETTER NO. 1

1-A If a decision to lease is made in response to CLA NM 28093, the BLM will comply with the provisions of Executive Order No. 11593 and the provisions of the National Historic Preservation Act of 1966, as amended prior to any terrain disturbance.



DIVISION OF CONSERVATION ARCHAEOLOGY

San Juan County
Museum Association

August 6, 1979

District Manager
Bureau of Land Management
P.O. Box 6770
Albuquerque, New Mexico 87107

Reference: Assessment and comments regarding the EAR for CLA
28093; cultural resources.

Dear Sir:

We have examined your EAR for Western Coal's lease application and find it to be basically adequate as an initial assessment of the archaeological sensitivity of the area.

Additional archaeological work, however, has recently been performed by our organization on Western Coal's existing San Juan Mine Lease which provides additional information pertinent to the significance of the kinds of cultural resources which have been found within the Competitive Lease Application area.

In terms of the prehistoric resources, it is anticipated that the most populous class of sites will fall within the Pueblo II-early Pueblo III periods (ca. A.D. 1000-1200). This projection is based in survey data collected by San Juan College and the Division of Conservation Archaeology on the San Juan Lease, by the BIA on Ute Mountain reservation lands directly north of the lease, and a survey by the DCA of one section located southeast of the CLA 28093 area. Sites attributable to these time periods have also been documented within the lease application area. Although the bulk of these resources are small one to four-room "farmhouses", we have found they are significant in that they collectively provide valuable information concerning prehistoric dry land agricultural practices and the negative consequences of heavy agrarian dependence. Perhaps more importantly, we feel that these resources will illustrate and will help to identify those environmental and cultural factors which were significant in producing the collapse of the Puebloan social and economic systems and the eventual abandonment of the Four Corners region by the Anasazi.

The historic period sites are also important outcomes of early Anglo economic development within the area. A number of documented sites within the CLA 28093 area are early 20th century homesteads which represent an interesting and unique phase in the history of Anglo use and occupancy of the Farmington-Fruitland region. A few Navajo and Ute sites probably exist within the proposed lease area. Our findings show that these sites specify interesting Navajo-Ute-Anglo inter-relationships within the early portion of the 20th century.

District Manager, BLM
 August 6, 1979
 Page 2

2-A What we are attempting to show here is that the resources exhibit scientific, historical, heritage, and educational values. We argue that further inventory and assessments of the cultural resources are warranted and necessary prior to mining and related activities. Further, we recommend that these resource assessments be conducted within a problem-oriented framework such that the cultural values of the resources can be properly identified.

I have one additional comment on the adverse effects on the resources as a product of subsurface mining. I have personal experience excavating archaeological sites affected by 19th century coal mining in northeastern Pennsylvania. Subsidence is both a long and short-term adverse effect, whether or not underground pillars are left in place. Subsidence-related effects on resources include not only structural degradation of architectural and other features, but also serious disruptions of cultural and natural deposits.

Thank you for the opportunity to comment on your Environmental Assessment Report.

Sincerely,

Meade F. Kemrer/ta

Meade F. Kemrer, Ph.D.
 Research Director

MFK/ta

RESPONSE TO LETTER NO. 2

2-A If a lease is issued, it will contain a stipulation that an intensive inventory of cultural resources be carried out prior to approval of a mining plan (see Additional Recommended Mitigation, Table I-3, page I-13). Authority to condition mineral leases to insure the protection of cultural resources exists under the Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.). Under authority of this act the lessee may be required to bear the expense of compliance with stipulations.



IN REPLY REFER TO:

United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE

SOUTH CENTRAL REGION

5000 MARBLE AVENUE, N.E., ROOM 211

ALBUQUERQUE, NEW MEXICO 87110

August 15, 1979

Mr. Paul Applegate
 District Manager
 Albuquerque District
 Bureau of Land Management
 P. O. Box 6770
 3550 Pan American Freeway, NE
 Albuquerque, New Mexico 87107

Dear Mr. Applegate:

This is in response to your request for comments on the environmental assessment for the proposed leasing of federal coal in response to Competitive Lease Application (CLA) NM 28093. These comments are being provided on an early coordination/technical assistance basis and should not be construed as an environmental statement review.

3-A We note that any mitigation efforts will be coordinated with the State Historic Preservation Officer. However, in addition to this action, the State Historic Preservation Officer should be contacted prior to any site surveys and given the opportunity to comment on the proposed actions. His comments should be documented in any further statements.

Sincerely yours,

Rolland B. Handley
 Regional Director

cc: Mr. Thomas Merlan

RESPONSE TO LETTER NO. 3

3-A The State Historic Preservation Officer will be contacted prior to the intensive archeological survey that will precede approval of any mining plan.



BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT
ENERGY RESOURCE AND DEVELOPMENT DIVISION

LETTER NO. 4

POST OFFICE BOX 2
113 WASHINGTON AV.
SANTA FE, NEW MEXICO
(505) 827-2471

August 17, 1979

District Manager
Bureau of Land Management
P. O. Box 6770
3550 Pan American Freeway, N.E.
Albuquerque, New Mexico 87107

Dear Sir:

Thank you very much for asking for comments on the environmental assessment for competitive lease application NM 28093. The assessment would be more meaningful if more data and information were included, particularly, in the following areas:

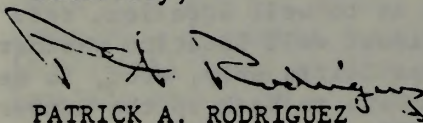
- 4-A 1) Resource evaluation - drill hole location and data for the 24 exploratory holes should be given and the method of calculating coal resources in place for each seam should be indicated. Speer, Beaumont, and Shoemaker in a December, 1977 report to the State Geologist indicate 80 million tons of resources in place in the 3856 acres - or considerably less than the 147 million that appear to be indicated in the EA.
- 4-B 2) Development drill holes - a drill hole spacing of 100 feet is indicated. The total number of expected drill holes should also be given and the area of expected drilling should be shown. The type of drilling, air, mud, etc., should be discussed along with how many sites can be reached by driving cross country without roads, etc. The data to support a 50 foot radius of soil disturbance for each hole drilled should also be indicated, as I have seen areas larger than this disturbed during drilling. Finally, legal requirements for rehabilitation, both on privately held surface and Federally held surface should be discussed.
- 4-C 3) Status of private surface land holders - a discussion of the land use, attitude of the private land holders of the surface property etc., should be given.
- 4-D 4) Resource commitments - a detailed discussion of resources used for 1) room and pillar with no pillar robbing, 2) room and pillar with pillar robbing, and 3) long or short wall mining should be given. Resources should include workers, electricity, diesel, and water on a resource consumed per ton of coal mined basis.

- 5) Resource recovery - a technical description of various mining techniques including pillar robbing and long wall should be outlined with percentage of expected coal recovery included. The description could include the possibility of recovery of all seams greater than three feet in thickness in the Fruitland. Backfilling as a means of allowing for recovery of upper coal seams through increased stability should be included. The technical aspects of mining a 15 feet thick seam to its entire thickness should be indicated. The amount of methane in the coal bed and possible drainage and use of the methane should be discussed. The legal requirements in the mining plan approval etc., for full resource recovery as is available from state of the art techniques should be stated.
- 6) Loss of other energy resources - if subsidence occurs gas in the formations above the Fruitland could migrate out of these formations and be lost. Drilling and shaft sinking activities involved with recovery of resources in formations below the Fruitland will be more difficult if the Fruitland coal is mined. A more detailed discussion of possible loss, increase in recovery costs, etc., of other resources due to mining the Fruitland coal is needed.
- 7) Subsidence - a very detailed discussion (based on overburden thickness and characteristics, number of seams mined, mining techniques, and other factors influencing subsidence) of various types of subsidence as a function of mining technique is needed, subsidence due to pillar robbing different than that due to long wall mining and their resulting hazards are different. The discussion should try and allow the reader to realize trade-offs between costs, increased coal recovery, loss of surface for productive purposes, leakage of surface drainage water downward, increased erosion and loss of dams due to subsidence and other environmental effects, loss of cultural resources, etc. Mitigating techniques such as back fill should be indicated. Legal requirements which might be used to achieve the most favorable trade-off should be included.
- 4-E 8) Water data - Data used to obtain the transmissivity and storage coefficient numbers needs to be discussed as to well location, data from each well, type of test, etc. Individual well location whether completion was in Fruitland only. Pictured Cliffs only, etc., is needed for ground water quality for USGS wells. Data to back up the number of 50-55 acre ft. of run-off from the over 3000 acres is also needed.
- 4-F 9) Rights-of way - an indication of alternate non lease area routes for present pipelines, roads, and transmission lines which cross the lease should be included.
- 4-G 10) Legal conflict - the EA states that the BLM has responsibility to prohibit land uses on the oil and gas tracts that would hinder the orderly development of these resources. Since coal mining would certainly do this, this legal conflict needs further discussion as to how this might be resolved.
- 4-H 11) Air quality - the EA should include mining emissions from mine vehicles, and waste and storage pile fires. The data to support 42.8 tons of particulates per year should be included.

Page 3
August 17, 1979

- 4-I 12) Waste piles - no discussion is given concerning location of mine waste piles, size, toxic elements in waste, total quantity of waste and possible mitigating measures which might be required such as back filling, revegetation, grading, etc.
- 4-J 13) Misstatement p III -2 - if subsidence occurs the paragraph at the top of page III-2 is not correct.
- 4-K 14) Mine reclamation - requirements for shaft and portal back-filling to prevent caving of these areas should be discussed.
- 4-L 15) Community infrastructure - the coal mine on the proposed lease area is stated to lead to the employment of 392 persons. With three persons per family this would lead to 1176 additional people in the area. The impact of these people should be examined in more detail as it would appear that the impact may be more than is indicated in the EA. The statement on p III-21, "Costs for public services would not be expected to exceed revenues since neither population growth nor population concentrations in particular communities would be expected to occur", needs careful documentation.
- 4-M 16) Other alternatives - the alternative of building a railroad from the Con Paso lease and from the Navajo mine to ship surface mined coal from these mine sites to the San Juan plant should be discussed in detail. Requirements of the Navajo Tribe for the building of this railway should be indicated. Even the underground mine will not meet all coal requirements for San Juan but shipments from Con Paso and Navajo could.
- 4-N 17) Dewatering - more information is needed as to how the dewatering requirements for the mine were calculated. Subsidence could cause surface or waters from the Kirtland shale to enter the mine and increase the dewatering requirements; this should be discussed.

Sincerely,


PATRICK A. RODRIGUEZ
Director

PAR:bp

RESPONSES TO LETTER NO. 4

- 4-A Drill hole location and drilling data are shown in Appendix A (Beach, L. J. and Jentgen, R. W. 1978. Coal test drilling for the San Juan Mine Extension, San Juan County, New Mexico. U.S. Geol. Survey Open-File Report 78-960). The average thickness for each seam was multiplied by the number of acres on the proposed lease. This figure was then multiplied by 1770, the number of tons per acre-foot for coal classified as subbituminous, to give an estimated tonnage figure for the two seams.
- 4-B The figures were assumptions used for probable impact assesment only. If a lease is issued, the exploration application that the lessee would have to file in conformance with Federal regulations would address the questions in your comment.
- 4-C As discussed on pages II-18 and II-22, the land is used primarily for livestock grazing and rights-of-way. There has been no opposition to leasing indicated by rights-of-way holders, surface owners, or land users.
- 4-D The resource that Western will utilize for development of an underground mine on their existing lease would not be increased if they obtained the proposed lease. Any changes from the resource commitments listed on page II-3 resulting from different mining methods can only be determined from a detailed mining plan based on exploration and engineering data. Similarly, coal recovery from different seams, gas in formations, effects of subsidence, mine wastes, and reclamation will have to be analyzed after a mining plan is submitted. The OSM regulations provide the legal requirements to be met before mining plan approval.
- 4-E Appendix B summarizes the well information and U.S. Geological Survey aquifer test data supplied by Western that was used to obtain the transmissivity and storage coefficient values presented in Table II-2, page II-13. In addition, pump test data from existing observation wells at Western's adjacent surface mine were used for estimating aquifer properties of the coal formation (transmissivity, storage coefficient), as well as ground water inflow to the mine (see Response 4-N).
- The 50-55 acre-feet runoff estimate was developed from channel geometry equations relating peak and annual runoff to channel widths (Hedman, E. R. and Kastner, W. M. 1977. Streamflow characteristics related to channel geometry in the Missouri River Basin, Jour. Research U.S. Geol. Survey, Vol. 5, No. 3). Although these relationships are poor for the ephemeral channels draining the area, the estimate equals about 0.2 inches

RESPONSES TO LETTER NO. 4, continued

of runoff from the proposed lease area itself. This agrees well with Soil Conservation Service maps which indicate that there is 0.1-0.5 inches of runoff per year in this area.

4-F Copies of correspondence included in Chapter IV of this assessment indicate satisfactory negotiations have been reached regarding location adjustments should they become necessary.

4-G As indicated on Table I-3 on page I-10, the Conservation Division of the U.S. Geological Survey will determine priority of development between coal, and oil and gas.

4-H Particulate emissions caused by mine vehicles are included in the total particulate emissions estimate. Gaseous emission (carbon monoxide, hydrocarbons, nitrogen oxides, and sulfur oxides) estimates from fuel combustion are not available at this time; however, these emissions would result from the traffic estimates shown in Appendix C, as supplied by Western.

Emissions from waste and storage pile fires are not quantifiable because of their intermittent and unpredictable occurrence. The probability of significant quantities of emissions from these sources would be low because a company mining coal would be required to take measures that would minimize emissions from these sources. New Mexico Surface Mining Act of 1979, Section 20 B(4); New Mexico Surface Mining Commission Rule 78-1, Section 33(e); and 30 CFR 817.95 (b)(17) outline required actions that would result in these measures.

The data to support the 42.8 tons of particulate emissions per year were also supplied by Western and are shown in Appendix D.

4-I See Response 4-D.

4-J The long-term productivity of the resources listed would not be affected by mining even if subsidence occurred, due to the requirements of Part 817, section 817.124(b) of the OSM Final Regulations, which indicate that:

"(b) Each person who conducts underground mining which results in subsidence that causes material damage or reduces the value or reasonably foreseeable use of the surface lands shall, with respect to each surface area affected by subsidence -

RESPONSES TO LETTER NO. 4, continued

"(1) Restore, rehabilitate, or remove and replace each damaged structure, feature or value, promptly after the damage is suffered, to the condition it would be in if no subsidence had occurred and restore the land to a condition capable of supporting reasonably foreseeable uses it was capable of supporting before subsidence;"

4-K See Response 4-D.

4-L As indicated on page III-20 of the EA, it is expected that potential population expansion that might otherwise occur as a result of employment for the proposed mining operation would be offset by decreases in construction employment, especially at the San Juan Power Plant, and by hiring local unemployed or underemployed persons.

The communities where population may increase due to location shifts resulting from hiring workers for the proposed mine have already prepared for expected expansion according to local officials, so additional major capital expenditures would not be made necessary by the proposed action. As population increases, community revenues from taxes and fees will increase sufficiently to provide for operation and maintenance of local services and facilities.

4-M Alternate sources of coal for the generating station must be determined by the supplier (Western), not by the BLM. The failure to complete negotiations with these companies was mentioned only to indicate a purpose and need for the proposed action.

4-N Mine water inflow was calculated using the Theis non-equilibrium equation and converting the total mine area to a well of equivalent radius. The upper range of transmissivity and storage coefficient values were used for the Fruitland coal. Inflow from the overburden and the Pictured Cliffs sandstone was not included in the estimate because of the poor transmissivities of these formations. This estimate of mine water inflow was checked with a U. S. Geological Survey two-dimensional aquifer simulation model and found to be a reasonable estimate of ground water inflow. Subsidence-induced effects cannot be predicted; however, the poor transmissivity of the shale overburden should preclude large amounts of inflow from this source.

WESTERN COAL CO.

POST OFFICE BOX 1026
ALBUQUERQUE, NEW MEXICO 87103

August 20, 1979

District Manager
Bureau of Land Management
P. O. Box 6770
Albuquerque, NM 87107

Attention: Mr. Bill Sharp

Dear Sir:

5-A | Western Coal Co. would like to express its appreciation to your staff for a job well done in the preparation of this Environmental Assessment Report on Competitive Lease Application NM 28093. However, we must express our surprise that this EAR was prepared in EAR format, and not in EIS format as directed by the BLM's Washington Office in March, 1979. We trust this failure will not cause further delay in the lease sale, since the only alternative for coal delivery to San Juan Generating Station would be truck delivery, probably from outside New Mexico. The resulting impact on the federal and state highway system, increased fuel consumption, socio-economic impacts, and higher utility costs all would then take place without any benefit of environmental assessment.

The BLM's New Mexico State Director, Mr. Arthur Zimmerman, on August 9, 1979, stated that a lease sale for NM 28093 is scheduled by the BLM for November, 1979. We have also been told by BLM officials in Santa Fe and in Washington that a lease issuance for this coal would take no later than thirty to sixty days from the lease sale date. Western Coal Co. urges the BLM to take all steps which are possible to insure that these dates are met.

On August 9, 1979, Mr. Zimmerman also said that the BLM would make every effort to reduce the time spent in preparing environmental assessments by combining wherever possible the leasing and mining of a property into one assessment report. We urge your strong consideration of this approach, since it will certainly save time and resources for both the BLM and any other federal agencies, as well as for Western Coal Co.

5-B | We have only one comment on the content of the EAR. On pages II-9, II-23, 24, and III-17 are assumptions concerning the possible occurrence of and impacts on paleontological and archaeological resources in the proposed lease area. Such assumptions should be based on established facts, not on mere speculation.

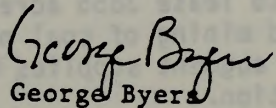
District Manager
Bureau of Land Management

(2)

August 20, 1979

Again, we would like to express our appreciation for the effort which your staff has made in preparing this document. We trust the lease sale will proceed as scheduled. Western stands ready to cooperate with your offices, the United States Geological Survey, the United States Office of Surface Mining, and any other federal agency in expediting this requested competitive lease sale and approval of the San Juan Deep Mine Permit Application.

Sincerely,



George Byers
Director of
Governmental Affairs

GGB/agn

RESPONSES TO LETTER NO. 5

- 5-A As directed by the BLM's Washington Office and New Mexico State Office, this EA has been prepared in the new EIS format specified in the Final Regulations of the Council of Environmental Quality. These final regulations, which became effective on July 30, 1979, have made substantial changes in EIS format, with the objective of reducing paperwork, reducing delay, and improving decisionmaking.
- 5-B Resource specialists dealing with paleontological and archeological data gaps in the proposed lease area have identified what is known about these resources in immediately adjacent areas. BLM Washington Office Instruction Memorandum No. 78-472 specifies that data gaps and their effects on impact assessment must be identified, so that the resulting implications are clear to the decisionmaker.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI

1201 ELM STREET

DALLAS, TEXAS 75270

August 23, 1979

Mr. Paul Applegate
District Manager
Bureau of Land Management
P.O. Box 6770
3550 Pan American Freeway N.E.
Albuquerque, New Mexico 87107

Dear Mr. Applegate:

This letter is in response to the request for review and comment on the Competitive Lease Application NM 28093. The Bureau of Land Management proposes to lease 3855 acres of land to Western Coal Company for the underground mining of coal near Farmington, New Mexico. The mine is expected to augment supplies needed for operation of the San Juan Generating Station.

This assessment is primarily directed toward the rental of lands suitable for mining although it does discuss several other actions and impacts besides those involved with the lease. A more thorough assessment is planned, however, and this will accompany the mining plan application.

6-A We believe in order for you to make a determination concerning the granting of the lease, it will be necessary to have more information at the lease application level. The location and use of a particular mining site will affect the wildlife, archeological sites and local residents and their domestic animals. Therefore, wildlife, and particularly endangered species and habitats which could be affected by the project, should be described in detail. At this time, communication and coordination with the Fish and Wildlife Service and the New Mexico State Heritage Program on present and expected impacts on the blackfooted ferret, the bald eagle and the peregrine falcon would greatly strengthen the assessment.

6-B This assessment states that there are as many as sixty-nine sites of varying archeological significance. A much better understanding of their existence, their location and their importance should be gained by additional studies prior to making your decision to grant Lease NM 28093. Coordination with the State of New Mexico Historic Preservation Program and the National Advisory Council should be made and the results included with the draft assessment.

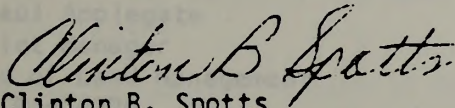
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8-C

Presently, the assessment is vague on the people and domestic animals which will be directly affected by mining beneath site NM 28093. Numbers, extent and duration of displacement should be included within the draft.

We appreciate having the opportunity to comment on the leasing assessment and hope that we can be of some help in your later, more complete, document. Such issues as mining methods, problems of subsidence, reclamation of the surface area and protection of significant archeological and wildlife species appear to be important in this project and are matters of serious environmental concern to EPA.

Sincerely,



Clinton B. Spotts
Regional EIS Coordinator (6ASAF)

RESPONSES TO LETTER NO. 6

- 6-A As is indicated on page I-5, a successful bidder for the proposed lease area would be required to file an acceptable mining plan within three years after lease issuance. Until a mining plan is submitted, a more specific assessment of impacts cannot be made. (Also see Letter No. 8 and Appendix E regarding the existence of threatened and endangered species in the proposed lease area.)
- 6-B See responses to Letters Nos. 1-3.
- 6-C If a decision is made to lease, the impacts from mining on people, domestic animals, and other environmental components will vary depending on which company is the successful bidder. Table I-4, pages I-14 through I-17, shows these differences.

Museum of New Mexico



August 1, 1979

Mr. L. Paul Applegate
District Manager
Bureau of Land Management
Post Office Box 6670
3550 Pan American Freeway N.E.
Albuquerque, New Mexico 87107

Dear Mr. Applegate:

This is to acknowledge receipt of the Environmental Assessment for Competitive Lease Application NM 28093. I and my staff will review it and send you our comments shortly.

Sincerely,

Curtis Schaafsma
State Archaeologist

CS:kc

State of New Mexico

GOVERNOR
BRUCE KING

STATE GAME COMMISSION

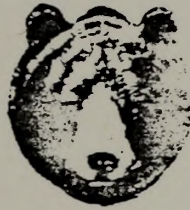
EDWARD MUNOZ, CHAIRMAN
GALLUP

J.W. JONES
ALBUQUERQUE

ROBERT H. FORREST
CARLSBAD

ROBERT P. GRIFFIN
SILVER CITY

BILL LITTRELL
CIMARRON



DEPARTMENT OF GAME AND FISH

STATE CAPITOL
SANTA FE
87503

August 16, 1979

Mr. Paul Applegate
District Manager
Bureau of Land Management
P. O. Box 6770
3550 Pan American Freeway, N. E.
Albuquerque, New Mexico 87107

Dear Mr. *Paul* Applegate:

My staff and I have reviewed the Environmental Assessment for Competitive Lease Application NM 28093 for underground mining of coal and I wish to make the following comments:

From a wildlife viewpoint, I see no reason why the lease should not be issued. No critical wildlife areas or rare and endangered species are affected. In the long-term, with the existing stringent federal and state laws and regulations for reclaiming disturbed surface areas, range conditions and wildlife habitat will probably be better after reclamation than prior to mining.

At this time, development of energy resources is a priority item and in this particular coal lease, development can be achieved with minimal adverse effects upon the environment. If Western Coal Company does acquire the lease, their past record at the adjacent San Juan Surface Mine indicates that every effort will be made to preserve environmental integrity during the mining years and to achieve successful reclamation of the disturbed lands after mining.

Thank you for the opportunity to review and comment upon the assessment.

Sincerely,

Harold
Harold F. Olson
Director

Salem, Oregon
August 17, 1979

District Manager
Bureau of Land Management
P. O. Box 6770
3550 Pan American Freeway N.E.
Albuquerque, N. M. 87107

RE: EA No. NM-010-9-692(F)

Dear Sir:

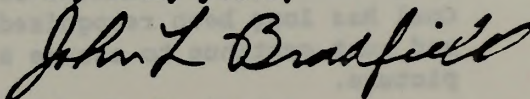
Thank you for the copy of the Environmental Assessment covering
Competitive Lease Application NM 28093.

As one of the heirs of the Mary Fitzgerald Estate, I am responding
on this lease.

I agree to the development of the natural resources of the Nation
and feel that the increased use of coal is essential to the future
development of America provided it is done in such a manner as to
protect individual rights. I am looking to the successful bidder
to provide written documentation that will assure protection of
these rights.

We trust that the BLM will enforce the requirements of the
successful bidder, as set forth in EA No. NM-010-9-692(F).

Very truly yours,



John L. Bradfield
897 Tierra Dr., NE
Salem, OR 97301

UTAH COLO.
ARIZ. N.M.

CITY OF FARMINGTON NEW MEXICO

OFFICE OF THE MAYOR
505/325-1981

August 20, 1979

Mr. Paul Applegate, District Manager
Bureau of Land Management
P. O. Box 6770
Albuquerque, N. M. 87107

Dear Mr. Applegate:

Subject: Competitive Lease Application (CLA) - NM 28093

Members of the City Staff have reviewed the Environmental Assessment for CLA NM 28093.

The City of Farmington supports the leasing of federal coal as requested in the CLA filed by Western Coal Company for coal reserves on Federal lands adjacent to their existing San Juan surface mine.

The development of this coal would represent a positive, if small, step toward the attainment of energy self-sufficiency in this country. Coal has long been recognized as this nation's most abundant energy resource and must continue to assume a more dominant role in the future energy picture.

In terms of the environmental impacts of the alternatives presented in the assessment, it is apparent that the Western Coal Company alternative is far superior to the "Other-Owner" alternative which might (assuming the coal is not marketed locally) result in the truck transportation of coal out of the area. The Bureau of Land Management estimates that a minimum of 234 trucks would be required for this operation. Additionally, Western Coal Company would then have to truck coal into the San Juan Generating Station in order to meet their commitment to deliver between 190 and 204 million tons of coal to the generating station during its years of operation (through the year 2015).

Such trucking operations would make significant, and unneeded, contributions to air pollution (through vehicle emissions) and traffic congestion. Under the Western Coal Company alternative, coal would be transported by way of conveyor to the San Juan Generating Station, thus eliminating some potentially adverse impacts.

MCKINLEY AREA COUNCIL OF GOVERNMENTS

200 South Third Street
 Gallup, New Mexico 87301
 (505) 738-4100

Mr. Paul Applegate

-2-

August 20, 1979

A conclusive evaluation of the proposal cannot be made until a detailed mining and reclamation plan is submitted. We understand that such a plan must be submitted within three years after the lease has been issued. We would be interested in reviewing any mining and reclamation plan, relevant to the proposal, which may be forthcoming.

We appreciate being given the opportunity to comment on this lease application.

Director of Land Management
 P.O. Box 5770
 Albuquerque, New Mexico 87107

Dear Sir:

Thank you for sending us the Environmental Impact Statement and Lease Application No. 19803.

At this time the Council of Governments has no comments. However, we would appreciate being kept informed as to future developments.

Sincerely,

David Carter

David Carter
 Planner

DC/af

Sincerely,

Robert S. Culpepper

Robert S. Culpepper
 Mayor

City of Gallup

BOARD OF DIRECTORS

MCKINLEY AREA COUNCIL

Don Gorman, Chairman
 Frank Carlson, Vice-Chairman

Frank Gable
 Joe Price

Leo Wilson
 Albert T. Hunt

Don Delaney, Treasurer
 Robert Vandenberg

McKINLEY AREA COUNCIL of GOVERNMENTS

309 South Third Street
Gallup, New Mexico 87301
(505) 722-4327

Elizabeth DiGregorio
Executive Director

August 20, 1979

District Manager
Bureau of Land Management
P.O. Box 6770
Albuquerque, New Mexico 87107

Dear Sir:

Thank you for sending us the Environmental Assessment for Competitive Lease Application NM 28093.

At this time the Council of Governments has no comments. However, we would appreciate being kept informed as to future developments.

Sincerely,

David Carter

David Carter
Planner

DC/af

City of Gallup

BOARD OF DIRECTORS

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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

FT. WORTH REGIONAL OFFICE

1100 COMMERCE STREET

DALLAS, TEXAS 75202

NEW ZIP CODE 75242

August 22, 1979

REGION VI

REPLY REFER TO

District Manager
Bureau of Land Management
P. O. Box 770
Albuquerque, New Mexico 87107

Dear Sir:

The environmental assessment for Competitive Lease Application NM 28093 covering the mining of Federal coal reserves on 3,855 acres near Farmington, New Mexico, has been reviewed in the Fort Worth Regional Office of the U.S. Department of Housing and Urban Development, and it has been determined that we will not have comments on the proposed action.

Sincerely,

Victor J. Hancock
Regional Director for Community
Planning and Development

AREA OFFICES

DALLAS, TEXAS • LITTLE ROCK, ARKANSAS • NEW ORLEANS, LOUISIANA • OKLAHOMA CITY, OKLAHOMA • SAN ANTONIO, TEXAS



United States Department of the Interior
NATIONAL PARK SERVICE

SOUTHWEST REGION
P.O. Box 728
Santa Fe, New Mexico 87501

IN REPLY REFER TO:

L7619(SWR)PE

AUG 29 1979

Memorandum

To: District Manager, Bureau of Land Management, Albuquerque,
New Mexico

From: ~~Nothing~~ Associate Regional Director, Planning and Cultural Resources,
Southwest Region

Subject: Bureau of Land Management Environmental Assessment, Competitive
Lease Application NM 28093 [EA No. NM-010-9-692(F)]

We have reviewed the subject environmental assessment which analyzes the effects of coal mining that would occur if a lease was granted for reserves of Federal coal underlying 3,855 acres, about 6 miles northwest of Farmington, New Mexico. A proposed action and four other alternatives are evaluated in this document.

The proposed project does not appear to have impacts or potential impacts on any existing unit of the National Park System, or on areas under study or recommendation for possible inclusion in this System.

Urban E. Rogers



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS

Navajo Area Office
Window Rock, Arizona 86515

IN REPLY REFER TO:

Environmental Quality

AUG 28 1979

District Manager
Bureau of Land Management
Post Office Box 6770
3550 Pan American Freeway, NE
Albuquerque, New Mexico 87107

Dear Sir:

We have reviewed the environmental assessment "Competitive Lease Application NM 28093" and do not have any comments at this time. The lease does not involve any lands over which the Navajo Area has any jurisdictional responsibilities.

We do reserve the right to future comments in the event of development and any changes that may be made.

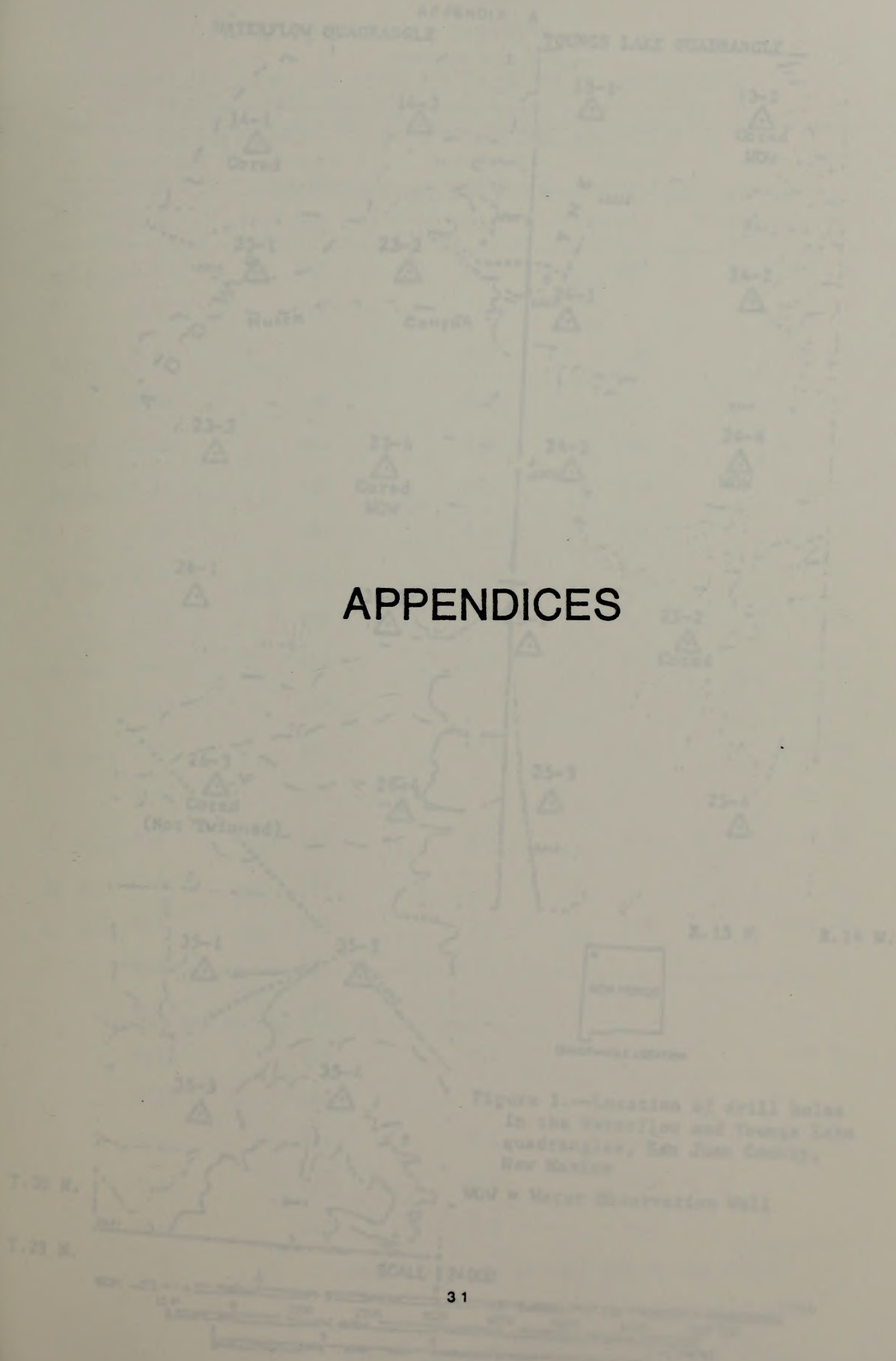
Sincerely yours,

ACTING Area Director

WATERFLOO QUADRANGLE

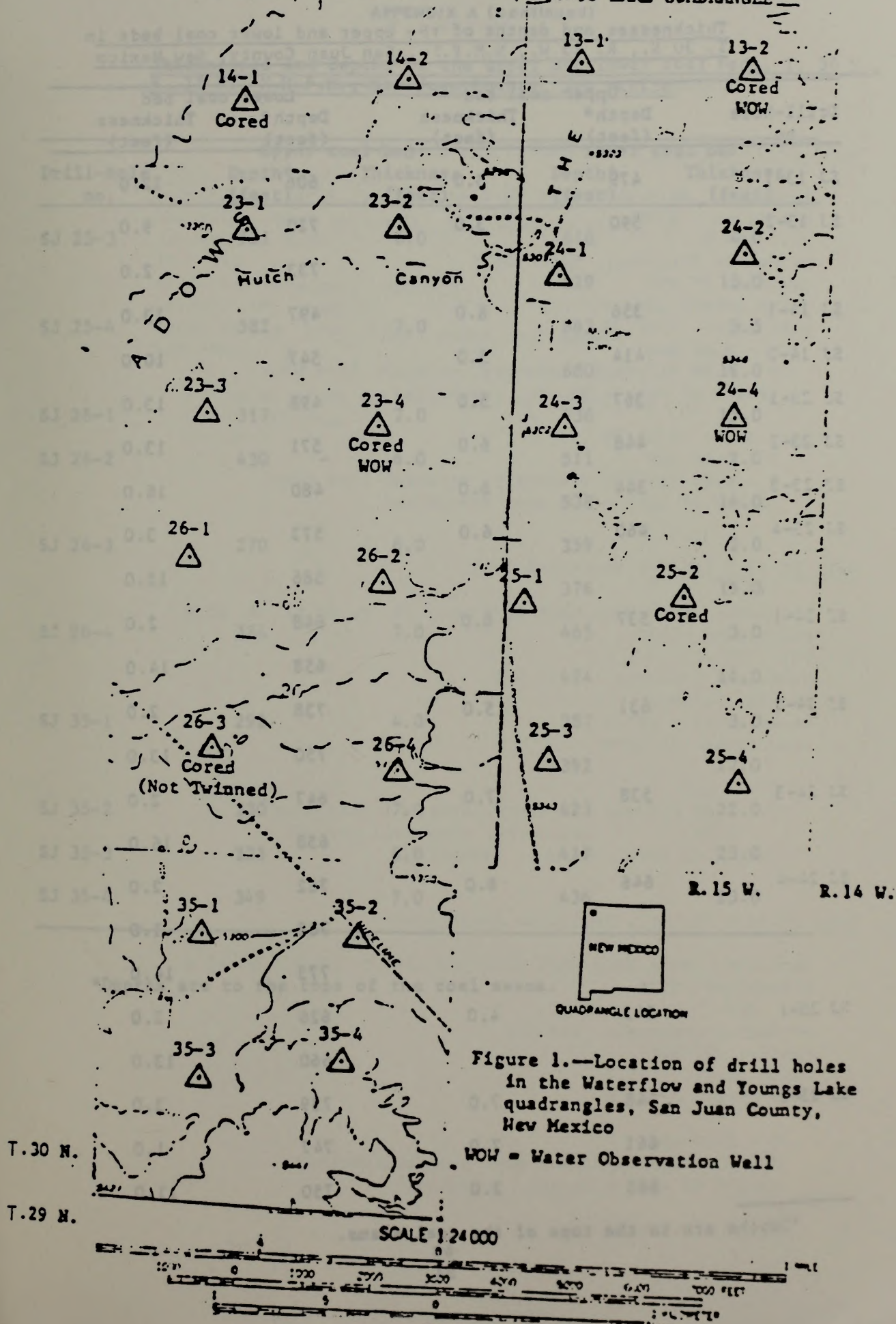
YOUNG LAKES QUADRANGLE

APPENDICES



WATERFLOW QUADRANGLE

YOUNGS LAKE QUADRANGLE



APPENDIX A (continued)

Thicknesses and depths of the upper and lower coal beds in
T. 30 N., R. 15 W., N.M.P., San Juan County, New Mexico

Drill-hole no.	Upper coal bed		Lower coal bed	
	Depth* (feet)	Thickness (feet)	Depth* (feet)	Thickness (feet)
SJ 13-1	479	5.0	606	12.0
SJ 13-2	590	3.0	720	9.0
			733	2.0
SJ 14-1	356	6.0	497	13.0
SJ 14-2	414	5.0	547	10.0
SJ 23-1	367	5.0	498	13.0
SJ 23-2	448	6.0	571	13.0
SJ 23-3	344	6.0	480	16.0
SJ 23-4	460	6.0	573	3.0
			586	15.0
SJ 24-1	537	6.0	648	2.0
			658	14.0
SJ 24-2	631	5.0	738	2.0
			750	13.0
SJ 24-3	538	7.0	647	2.0
			658	16.0
SJ 24-4	646	8.0	762	2.0
			768	1.0
			773	14.0
SJ 25-1	543	4.0	626	2.0
			660	13.0
SJ 25-2	648	7.0	739	3.0
	661	2.0	747	1.0
	665	2.0	750	11.0

*Depths are to the tops of the coal seams.

APPENDIX A (continued)

Thicknesses and depths of the upper and lower coal beds, T. 30 N., R. 15 W., N.M.P.M., San Juan County, New Mexico

Drill-hole no.	Upper coal bed		Lower coal bed	
	Depth* (feet)	Thickness (feet)	Depth* (feet)	Thickness (feet)
SJ 25-3	521	6.0	616	4.0
			629	15.0
SJ 25-4	582	7.0	663	3.5
			680	16.0
SJ 26-1	317	7.0	436	15.0
SJ 26-2	430	6.0	511	2.0
			538	14.0
SJ 26-3	270	6.0	359	2.0
			376	15.0
SJ 26-4	384	7.0	465	3.0
			474	14.0
SJ 35-1	292	4.0	387	3.0
			392	17.0
SJ 35-2	330	7.0	423	22.0
SJ 35-3	325	6.0	417	23.0
SJ 35-4	349	7.0	436	23.0

*Depths are to the tops of the coal seams.

APPENDIX B

Summary of U.S.G.S. aquifer test data, San Juan Mine Area

well SF-23.4 (E182), Pictured Cliffs Sandstone

location: NW/4 NW/4 SE/4 SE/4 sec. 23, T. 30 N., R. 15 W.

elevation: 5290

TD: 740.0

producing interval: 613.-729.5

casing: 2" PVC

water level: 123.9

test date: 2/21/78

Q - 0.41 gpm

T - 0.55 ft²/day? (recovery, straight line plot)

length of test - 92 min. (swabbing)

test date: 5/23/78

Q - 0.66 gpm

T - 0.68 ft²/day (recovery, straight line plot)

length of test - 100 min. (swabbing)

well SF-13.2 (E180), Fruitland Coal

location: SE/4 NW/4 NE/4 SE/4 sec. 13, T. 30 N., R. 15 W.

elevation: 5370

TD: 715

producing interval: 590.-715.

casing: 2" PVC

water level: 167.6

test date: 2/22/78

Q - 2 gpm

T - 0.66 ft²/day (recovery, straight line plot)

0.25 " " (recovery, slug test method)

length of test - 40 min. (swabbing)

well SF-24.4 (E-181), Fruitland overburden

location: NW/4 SW/4 NE/4 SE/4 sec. 24, T. 30 N., R. 15 W.

elevation: 5370

TD: 582

producing interval: 546-582

casing: 2" PVC

water level: 135.2

test date: 2/22/78

Q - 1.28 gpm

T - 0.03 ft²/day (recovery, slug test method)

length of test - 53 min. (swabbing)

APPENDIX B (continued)

well GT-2, Fruitland Coal.

location: NW/4 NW/4 NE/4 SW/4 sec. 36, T. 30 N., R. 15 W.

elevation: 5280

TD: 532

producing interval: 500-517+

casing: 6", steel

water level: 140+ ("360' above coal seam")

test date: ?

Q - total of 28 gallons, time not indicated

T - 0.6 ft²/day

S - 10⁻⁵

APPENDIX C 1/

SUPPORT TRAFFIC-ROUND TRIPS/YEAR

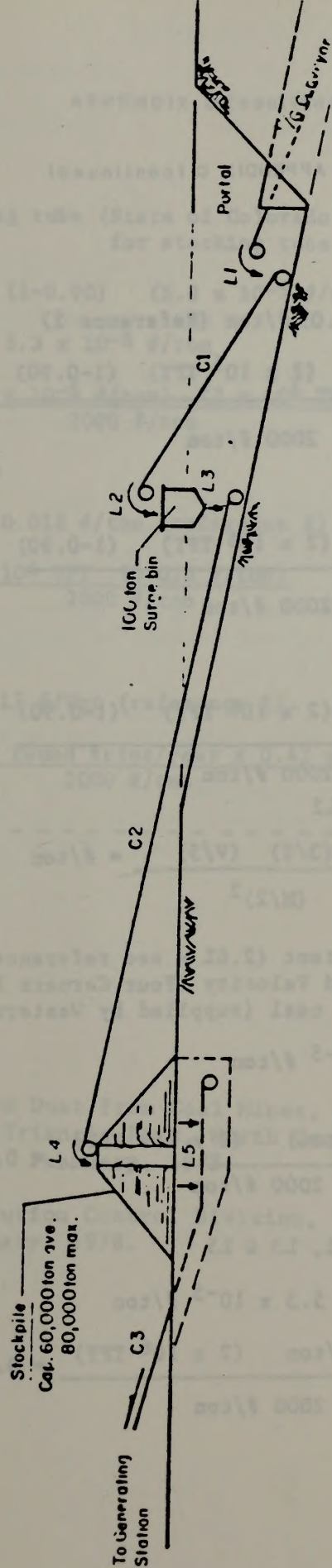
<u>YR.</u>	<u>SECTION CREW</u>	<u>SUPER.</u>	<u>ENGR.</u>	<u>INSP.</u>	<u>MAINT.</u>	<u>SUPPLY</u>	<u>ROCK DUST</u>	<u>ROAD MAINT</u>
1	460	460	115	460	460	230	---	70
2	767	767	115	460	460	384	192	140
3	920	920	115	460	460	460	230	140
4+	3,333	3,333	115	460	1,380	1,666	1,111	280

<u>VEHICLE TYPE</u>	1	2	2	2	1	3	3	3
-------------------------	---	---	---	---	---	---	---	---

Underground Vehicle Types:

1. - 10-Man Personnel Carrier
2. - Pickup-Type Vehicle Modified for U/G use
3. - Tractor w/2 x 5 Ton Units

1/ An estimated round-trip distance of 0.41 miles was included in other information supplied by Western Coal Co.



Coal Handling Schematic
(Mature Operation)

APPENDIX D

APPENDIX D (continued)

1. Conveyor - C1 EF=0.05 #/ton (Reference 2)

$$\frac{(.05 \text{ lbs/ton} \quad (2 \times 10^6 \text{ TPY}) \quad (1-0.90))}{2000 \text{ \#/ton}} = 5 \text{ TPY}$$

2. Conveyor - C2

$$\frac{(.05 \text{ \#/ton} \quad (2 \times 10^6 \text{ TPY}) \quad (1-0.90))}{2000 \text{ \#/ton}} = 5 \text{ TPY}$$

3. Conveyor - C3

$$\frac{(.05 \text{ \#/ton} \quad (2 \times 10^6 \text{ TPY}) \quad (1-0.90))}{2000 \text{ \#/ton}} = 5 \text{ TPY}$$

4. Load into surge bin - L2

$$EF = 0.0018 \frac{(3/5) \quad (V/5)}{(M/2)^2} = \text{\#/ton}$$

S = Silt content (2.6% - see reference 2)

U = Mean wind Velocity (Four Corners Power Plant wind data)

M = moisture coal (supplied by Western Coal Co. 10.28%)

$$EF = 5.3 \times 10^{-5} \text{ \#/ton}$$

$$\frac{(5.3 \times 10^{-5} \text{ \#/ton}) \quad (2 \times 10^6 \text{ TPY})}{2000 \text{ \#/ton}} = 0.053 \text{ TPY}$$

5. Load onto Conveyor - L1, L3 & L5

$$(\text{ see 4) } EF = 5.3 \times 10^{-5} \text{ \#/ton}$$

$$\frac{(5.3 \times 10^{-5} \text{ \#/ton} \quad (2 \times 10^6 \text{ TPY}))}{2000 \text{ \#/ton}} = 0.053 \text{ TPY (EA.)}$$

APPENDIX D (continued)

6. Load into stacking tube (State of Colorado APCD 90% efficient for stacking tube (2))

$$EF = (1-0.90) \quad (5.3 \times 10^{-5} \text{ \#/ton})$$

$$= 5.3 \times 10^{-6} \text{ \#/ton}$$

$$\frac{(5.3 \times 10^{-6} \text{ \#/ton}) (2 \times 10^6 \text{ TPY})}{2000 \text{ \#/ton}} = 0.0053 \text{ TPY}$$

7. Stockpile Windage

$$EF = 0.018 \text{ \#/ton (reference 2)}$$

$$\frac{(6 \times 10^4 \text{ TPY}) (0.018 \text{ \#/ton})}{2000 \text{ \#/ton}} = 0.54 \text{ TPY}$$

8. Support Traffic

$$EF = 17 \text{ \#/Vmt (reference 1)}$$

$$\frac{7,770 \text{ round trips/year} \times 0.41 \text{ miles/round trip} \times 17 \text{ \#/Vmt}}{2000 \text{ \#/ton}} = 27.08 \text{ TPY}$$

9. Total Emissions - - - - - 42.83 TPY

References:

- (1) Survey of Fugitive Dust from Coal Mines, U. S. Environmental Protection Agency, Research Triangle Park, North Carolina, Publication Number EPA 908-1-78-003. February, 1978.
- (2) Colorado Air Pollution Control Division, "Emission Factors for Mining Operations", January, 1978.

UNITED STATES GOVERNMENT

MemorandumDEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

IN REPLY REFER TO:

1971

TO : State Director (D-910)

Date:

AUG 24 1979

FROM : District Manager, Albuquerque

SUBJECT : Threatened and Endangered Species Evaluation Relative
to Proposal Concerning Minor Construction on
Competitive Lease Application NM 28093

In the opinion of Richard A. Diener, Wildlife Biologist, Environmental Assessment Team, Albuquerque District Office and of Willis M. Bird, Jr., Wildlife Biologist, Farmington Resource Area, there are no threatened and endangered species (plant or animal) in the location of the proposed action. Also, there is no danger to threatened and endangered species habitat within the sphere of the subject action.

According to WO Instruction Memo 79-250, it has been determined that the proposed action represents a minor construction action.

This memorandum is an official documentation of a no-effect determination as per a conversation with Laun Buoy on August 21, 1979, Threatened and Endangered Species Liaison Officer, and Richard A. Diener.

J(Sgd.) MATHEW N. MILLENBACH

cc:

Laun Buoy (D-931)

Robert R. Caulkins (Attn: W.M. Bird, Jr.)

Van Manning (D-911)

BUREAU OF LAND MANAGEMENT

Library
Denver Service Center

Form 1279-3
(June 1984)

BORROWER'S CARD

TD 195 .C58 C65 1979

Competitive lease
application NM 2800

DATE LOANED	BORROWER

USDI - ELM

